RENAUTO - New generation of renewable high-performance plastics

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MAIER completed the RENAUTO project, which consisted on the development of a new generation of plastics coming from renewable energies addressed to the green car of the future. This development will enable the substitution of the current plastics, from fossil origin used to manufacture automotive parts, to plastics with a lower carbon footprint.

Hence, this project targeted the completion of new products manufactured with more environmentally-friendly materials according to their origins, and focused on the maturation of new thermoplastic materials aiming at the following common goals:

- Development of three bioplastics. Each one of them with a content higher than 35% of renewable material (deviced from: cellulosic fibre, castor-oil and glucose fermentation).
- Decrease the carbon footprint in about 15% of the automotive parts produced with these materials.

The project was 2 years (2014 and 2015) entailing the following results:

- Bio-composites with cellulosic fibres: the result were satisfactory, both from the aesthetic and functional points of view.
- The plastics derived from castor-oil shown a large potential in terms of thermo-mechanical properties but aesthetically they do not fulfill the expectations.

- Regarding the plastics derived from the glucose fermentation, the thermo-mechanical properties do not meet the OEMs automotive exigencies requiered by the demonstrators selected, but they are potentially suitable for other components with not so demanding requirements.

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